



32<sup>nd</sup> Annual FAA Aviation  
Forecast Conference  
Environmental Issues in Aviation  
The Airline Perspective  
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## THE U.S. CHALLENGE

*Airlines' top priority:*

*National Airspace Modernization*

– Satellite-based technology

- Reduced delays/congestion

▶▶ Delays cost airlines \$62.33/minute (\$24 of it fuel)

\$5,866,000,000 in 2005 (\$2,268,000,000 of it fuel)

- Efficient routing and spacing

– Expansion impossible without it

- NextGen: 2-3X system growth
- Current system not scalable



## NAS MODERNIZATION AND THE ENVIRONMENT

### – Benefits if done

- Potential 12 – 15% fuel savings
- Decreased fuel burn → less CO<sub>2</sub> and other emissions

### – Constraints if not done

- Already an issue in airport expansion
- Could be biggest roadblock to NextGen



## THE INTERNATIONAL CHALLENGE

- International Civil Aviation Organization (ICAO)
  - FAA leadership in Committee on Aviation Environmental Protection (CAEP)
  - Noise and emission standards for aircraft engines
  - Guidance on environmental practices, e.g.,
    - ▶▶ Balanced Approach to Noise
    - ▶▶ Guidance on land use “encroachment” around airports



## –The climate change debate – greenhouse gases (GHGs)

- Regions taking different paths
  - ▶▶ EU nations ratified Kyoto Protocol and have set up emissions trading system (ETS)
  - ▶▶ US and others pursuing efficiency-based reductions; other measures under consideration
  - ▶▶ China/other developing countries not covered by Kyoto, emissions growing rapidly and inefficiently
- ICAO role under Kyoto to address GHGs of international aviation – work is ongoing



## – The climate change debate

- Aviation's contribution
  - ▶▶ Huge efficiency improvements – 34% since 2001 (RPM)
  - ▶▶ 2% of global CO<sub>2</sub>, but growth outpaces efficiency gains
  - ▶▶ Supports 8% of global GDP (IATA)
- Radically different regional perceptions
  - ▶▶ UK/Europe
    - » Aviation and its growth seen as major problem
    - » Shrink aviation -- “Flying kills.” (The Guardian, 2/28/06)
  - ▶▶ Asia-Pacific – responsible growth of aviation needed to bring economic and social benefits of development
  - ▶▶ US – Aviation a minor issue due to small contribution and lower growth rate



## – The climate change debate

- Regional differences on emissions trading

### ▶▶ ICAO guidance

- » EU: Carriers of all States can be covered unilaterally
- » Other ICAO States, including US: mutual agreement required
- » Issues to be discussed at 2007 ICAO Council and Assembly meetings

### ▶▶ European Commission – proposed legislation to unilaterally bring international aviation into EU trading scheme in 2012



# Environment – The Airline Perspective

## Airlines Support FAA Integration of Environmental Work Across Policy Areas

– FAA environmental mission serves both U.S. and international goals, e.g.,

- Analytical tools to assess aviation's environmental impact
  - ▶ ICAO environmental goals to limit or reduce impact of noise, local emissions and GHGs
  - ▶ NextGen expansion scenarios
- Other PARTNER COE research
  - ▶ Continuous descent approaches
  - ▶ Particulate emissions





# Environment – The Airline Perspective

## Reauthorization Bill Environmental Provisions Further FAA Initiatives

- Low-noise/emissions technology R&D (CLEEN)
  - Funded from NextGen
  - Technology advances needed to meet mid-term Next Gen plans
  - Supports international stature
- Broader approach to airport initiatives
  - Research program – noise, emissions, water
  - “Environmental set-aside” from AIP – research and mitigation projects, review of noise abatement procedures
  - Questions of funding fairness must be resolved